

# A Multiprofessional Survey on the Role and Impact of Medical Associate Professions in the NHS

## Abstract

**Background:** With the global scarcity of the healthcare workforce, innovations in healthcare professional (HCP) roles include the model introduced in the 1960s in the USA of medical associate professionals (MAPs). Since 2003 in the UK, MAPs had a scope of practice defined by local employers. In 2024, the UK Parliament passed a resolution to bring the MAPs under regulation by the General Medical Council. However, multidisciplinary team and public awareness of MAPs have come under scrutiny, due to uncertainties around roles, unmonitored expansion of scope of practice, patient safety concerns, and competition for jobs and training with doctors.

There is a need for rigour in exploring the opinions of the whole spectrum of HCPs, especially locally employed doctors (LEDs), Specialty and Associate Specialities (SAS) and international medical graduates (IMGs) who not only make up a large cohort of doctors in the UK but work closely with MAPs and support their prescribing and ordering investigations functions.

**Aim:** Designed by a multi-professional working group, an online survey of HCPs was conducted to explore the role of MAPs in patient care, and how workforce plans around the roles align with the roles, responsibilities, and training of doctors.

**Findings:** A total of 583 responses were collected which included consultants (43%), postgraduate doctors in training, General Practitioners, LEDs, IMGs (75%), nurses, and allied health professionals.

- **Role:** 53% of respondents were uncertain of the specific role of MAPs within the team; 43% agreed primary roles of MAPs involved delivering specific, well-defined skill-based services, reducing workload (20%), and providing continuity (19%). 89% emphasised the importance of a clear distinction between the roles of doctors and MAPs.
- **Patient Safety:** 77% agreed that MAPs currently may pose a risk to patient safety. 89% recognised the risk associated with MAPs working beyond their scope. 69% agreed with the need for a competency framework for MAPs.
- **Supervision:** 75% expressed concerns about the increased clinical risk and burden faced by doctors in supervisory roles.
- **Impact on Doctors:** 69% reported reduced job prospects and 67% reduced training opportunities.
- **Regulation:** 74% agreed with regulation by an independent regulator, not the GMC.

**Free text:** The analysis of free-text comments revealed a predominantly negative sentiment regarding the role of MAPs. Concerns about patient safety, lack of proper training, additional workload implications for doctors, the potential for misrepresentation, the erosion of training opportunities for doctors, the risk of scope creep, and confusion among patients.

**Conclusion:** Innovation in healthcare professional roles and functions is key to supporting the human resource shortage in health systems. The results of this survey from Multiprofessional respondents including IMGs, suggest that caution is required in how roles are positioned to the public, to avoid blurred lines of responsibility or interchange between professional roles, and to avoid confusion and consequent risk to the public. MAPs need a robust national framework of

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competencies, an independent regulator for licensing, and support doctors but not compete for resources, jobs, and training opportunities.

## Introduction

Global healthcare systems are perpetually experiencing a cycle of increase in patient demand and a shortage of medical professionals<sup>1</sup>, which have worsened since the COVID-19 pandemic<sup>2</sup>. Yet, the education and training of doctors remains time and resource-intensive<sup>3</sup>, and safe practice requires a robust process of regulation. Although subject to much innovation as well as challenges in aligning training to the changing needs of the population<sup>4</sup>, in most healthcare systems, there is strict monitoring of the quality of training and a restricted process of licensing protecting against unbridled expansion of training spaces and practice.

One solution to meet the need for the strain on healthcare services is the global migration of healthcare professionals. There are push and pull factors that drive migration, and industrialised countries have been net importers of trained professionals. Although inward migration of trained professionals is economically advantageous, there are wider challenges of social integration, bias, and anti-immigrant sentiments, as well as the detrimental impact on countries that have net negative migration. International Medical Graduates (IMGs) in the UK constitute up to 40% of the medical workforce<sup>5</sup>. However, sustainable healthcare workforce policies require that there is an increase in the local provision of professionals, and this can be achieved by diversification of the workforce functions from regulated professionals (i.e. doctors, nurses, midwives) to a task or skill-based workforce. Such initiatives include the expansion of roles such as advanced nurse practitioners, nurse endoscopists, reporting radiographers etc.

Medical associate professionals (MAPs) were introduced in the UK in 2003, after their success in the USA for over five decades, as a potential innovative solution to these challenges. The aim was to uphold the standard of care in the areas suffering a physician shortfall while offering basic training for a reduced 24-month period. MAPs in the USA,

which number more than 100,000, provide more care for older citizens, those without private healthcare insurance and rural populations than their physician counterparts. Evidence from the USA suggests improved continuity of care and cost benefits alongside comparable outcomes in safety, efficacy, and patient satisfaction<sup>6</sup>. There are similar initiatives for providing affordable alternatives to medical practitioner-delivered healthcare in other countries globally such as Ayush doctors in India<sup>7</sup> or the barefoot doctors in China<sup>8</sup>.

## Medical Associate Professionals

MAPs are a group of professionals, encompassing physician associates (PAs), anaesthesia associates (AAs) and surgical care practitioners (SCPs). They are generalist healthcare professionals with postgraduate qualifications, who are trained to provide medical care as part of the multidisciplinary team. They are considered dependent practitioners who work under a specified medical supervisor but can also work autonomously with appropriate support<sup>9,10</sup>. MAPs in the UK undertake a two-year master's degree in physician associate studies following a bioscience-related undergraduate degree. As of June 2023, there were 73 full-time equivalent (FTE) qualified AAs and 1,508 FTE qualified PAs working in NHS trusts and other core organisations in England, as well as a further 1,707 FTE qualified PAs working in GP practices and primary care networks<sup>11</sup>. In the UK, PAs are involved in several aspects of medical care, including patient assessments, carrying out diagnostic or therapeutic procedures, requesting and interpreting diagnostic studies and formulating differential diagnoses and management plans. At present, MAPs in the UK are not authorised to prescribe medications and order ionising radiation<sup>12</sup>, unlike their counterparts in the USA<sup>13</sup>.

Integration of MAPs into the workforce provides several benefits to the healthcare system. MAPs are cost-effective, with comparable quality of care and levels of patient safety to that of a doctor<sup>10</sup>. MAPs contribute to continuity of care in medical and surgical teams, improve patient experiences of

healthcare, and support the existing staff and their workload, allowing trainee doctors time to attend teaching and work on more complex cases<sup>14</sup>. The positive impact of MAPs is particularly important during times of doctor shortages and rota gaps<sup>14,15,16</sup>. In UK emergency departments, MAPs have been shown to work at an equivalent level to foundation year one and two doctors, with similar outcomes, and provide safety and continuity to the team<sup>17,18,19</sup>. Generally, patients report good levels of satisfaction with MAPs.<sup>10</sup>

### Concerns

However, there are certain issues concerning MAPs that have been brought to light in recent months. Firstly, there is a lack of clarity regarding the responsibilities and scope of practice of MAPs within the UK<sup>20</sup>. This includes concerns regarding their integration within the existing multidisciplinary team, and how their roles intersect, overlap, or replace the role of doctors. The poor understanding of the scope of practice of MAPs begins with the definition of MAPs, who in some cases are defined as being able to practice autonomously, and in others, are required to practice 'under supervision as a dependent practitioner'<sup>10</sup>. This lack of clarity, regulation, and lack of authority to prescribe is seen as a problem in many specialities. Patients and relatives describe MAPs positively, but most do not understand who and what a MAP is, often mistaking them for doctors, which may have implications for effective teamwork and patient safety<sup>14,21</sup>.

Currently, in the UK, MAPs are not permitted to prescribe medications, as they are not yet regulated<sup>10</sup>. This differs from the USA, where MAPs have a prescribing privilege<sup>22</sup>. Thus, the need for doctors to act as supervisors and proxy prescribers (of medications and ionising radiation) can result in an increased burden and risk for junior doctors in the team<sup>14,17,23</sup>. There is a recognised need for regional and national strategies regarding the regulation of MAPs to enable them to contribute fully to the healthcare workforce<sup>24</sup>. In the last few years within the UK, there have been plans to introduce statutory regulation for MAPs, which considers the introduction of prescribing<sup>10</sup>. In 2024, the General Medical Council was

entrusted with the regulation of MAPs and a public consultation has been initiated<sup>25</sup>.

Recent months have seen a spate of concerns and public statements by the doctors' unions, medical royal colleges, trainee committees and the wider media on concerns regarding MAPs and patient safety<sup>26</sup>. There is however a lack of evidence exploring the opinions of LEDs, SAS, and IMGs towards such changes. This survey was designed to meet this evidence gap.

### Survey Rationale

A survey was designed to explore the perceptions of doctors, in particular, IMGs, LEDs, and SAS many of whom do not have ease of access to extended specialist skills acquisition. This includes the impact on medical training and opportunities that contribute to career progression, such as clinic/theatre time, opportunities for practical procedures and teaching opportunities. IMG doctors working in the NHS often have poor inductions, inadequate supervision and limited learning opportunities or access to training posts and feel undervalued and unsupported in their roles<sup>5,27</sup>. Many IMGs who have started recently working in the NHS have little or no prior experience with MAPs<sup>28</sup> and have little voice or contribution to the debate. This survey was commissioned to answer calls from doctors to organisations such as the British Association of Physicians of Indian Origin (BAPIO) and its alliance partners, that represent the views of IMGs and professionals from minority backgrounds (many in LED roles) in the scope of the MAPs project<sup>29</sup>. Through this survey, and subsequent focus groups, BAPIO and its alliance partners seek to explore and represent the opinions of IMG, LED, and SAS doctors.

### Methods

#### Design

The survey was designed for purpose by the BAPIO Institute for Health Research (BIHR) team members, with expertise in workforce development, higher education, healthcare strategy, health economics, diversity, inequalities, and research methods. The choice of questions was based on a focused literature review, and panel discussions with HCPs including MAPs.

*Setting & participants*

An invitation containing a hyperlink to the survey was sent via email to members of BAPIO, and its alliance partners and shared via relevant social media groups. The survey was open from 17<sup>th</sup> January 2024 to 4<sup>th</sup> March 2024.

*Survey content.*

The survey consisted of eleven questions, ten with closed, single, or multiple response options with an opportunity for open comment and one question with an open response option only. Five questions addressed the role and demographics of the respondents, one question considered the role of MAPs as members of the healthcare team, one considered the impact of MAPs on patient care, one considered the impact of MAPs on recruitment, training, career progression, and team-working of doctors; one considered the role of relevant professional bodies, one considered whether the current role of MAPs is a risk to patient safety, and one considered the overall risks and benefits.

*Analysis*

Closed response questions were analysed using descriptive statistics of response frequencies. Open responses were analysed qualitatively by two of the authors (TC and IC), grouping them thematically, with respondents'

verbatim comments and applying sentiment analysis using artificial intelligence (ChatGPT 3.5®).

**Results**

*Demographics*

A total of 583 responses were collected, with 75% (n = 438) of respondents identifying as IMGs. The survey captured a diverse range of roles within the healthcare service, with the highest proportion of respondents being consultants (41%, n = 237). Additionally, 20% (n = 112) were postgraduate doctors in formal training, and 20% (n = 119) were LED and SAS doctors. Most respondents were within the 36-55 age category (55%, n = 332), and males constituted 71% (n = 413) of the sample. There were 64% of respondents who identified as of Indian origin, see appendix for full results.

*Role of MAPs*

53% of respondents (n=310) were uncertain of the specific role of MAPs within the team, while 43% (n = 250) agreed that one of the primary roles of MAPs involved delivering specific, well-defined skill-based services, such as managing a deep vein thrombosis clinic. Additionally, 42% (n = 246) acknowledged the role of MAPs in alleviating the workload for doctors, 20% (n = 119) in providing continuity of care, 19% (n = 113) in addressing gaps in the medical rota, including reducing the need for locum doctors.

What do you believe is the role of MAPs as members of the healthcare team? (Tick all that apply)

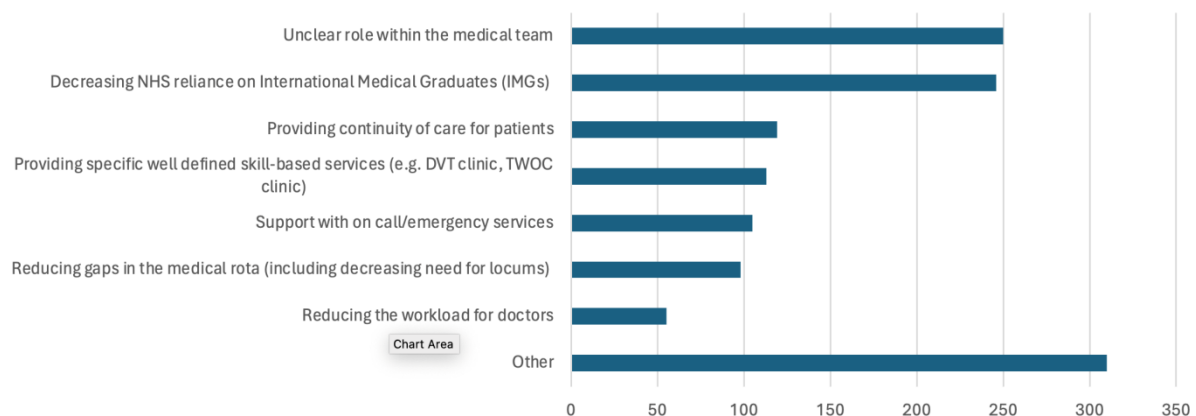


Figure 1: A bar chart describing the results of the role of MAPs question

*Impact of MAPs on patient care*

One survey question explored the respondents' perceptions regarding both the positive and negative impacts of MAPs on patient care, encompassing areas such as patient outcomes, public perception, patient safety, and scope of practice.

88% (n = 512), recognised the potential risk associated with MAPs working beyond their scope of training and role descriptors. 88% (n = 511), expressed concern about the potential risk of patients mistaking them for doctors or 83% (n = 482) identified the potential risk of patients misunderstanding the role of MAPs.

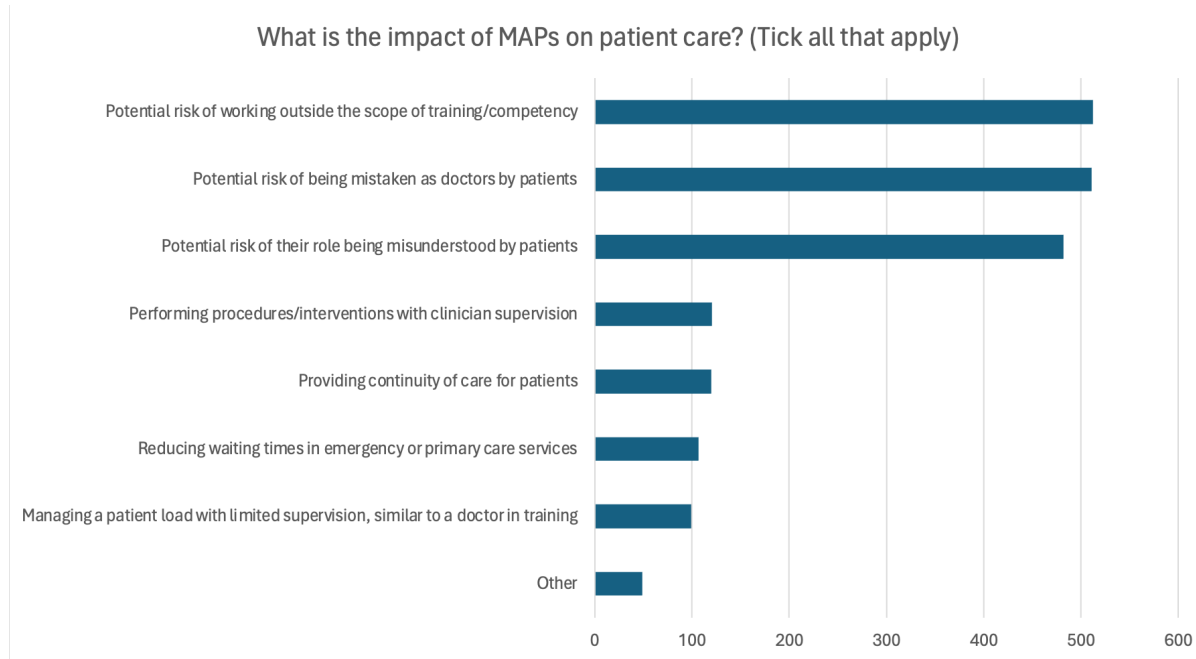


Figure 2: A bar chart describing the results of the patient care question.

Overall, 77% (n = 447) of respondents agreed that the way that MAPs currently work is a risk to patient safety.

Do you believe the way MAPs currently work is a risk to patient safety?

583 responses

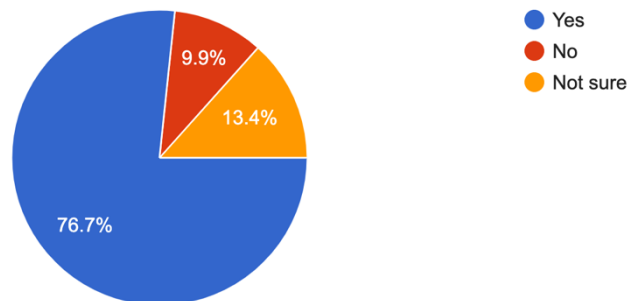


Figure 3: A pie chart describing the results of the patient safety question.

*Impact of MAPs on Recruitment, training & career progression of doctors*

The survey explored the perceived impact of MAPs on various aspects of doctors' recruitment, training, career progression, and team dynamics. Notably, a substantial 75% (n = 436) of respondents expressed concerns about the increased clinical risk faced by doctors in supervisory roles due to the involvement of MAPs, and the increased workload placed on supervisory doctors (75%, n=436).

Furthermore, 69%, (n = 401), identified a potential reduction in job opportunities for locums, LEDs, and IMGs. Moreover, 67% (n = 393) of respondents identified an increase in workload and risk associated with being tasked to prescribe medications or request investigations on behalf of MAPs. Similarly, 67% (n = 391) of respondents cited concerns about reduced training opportunities stemming from heightened competition, encompassing clinics, theatres, and procedures.

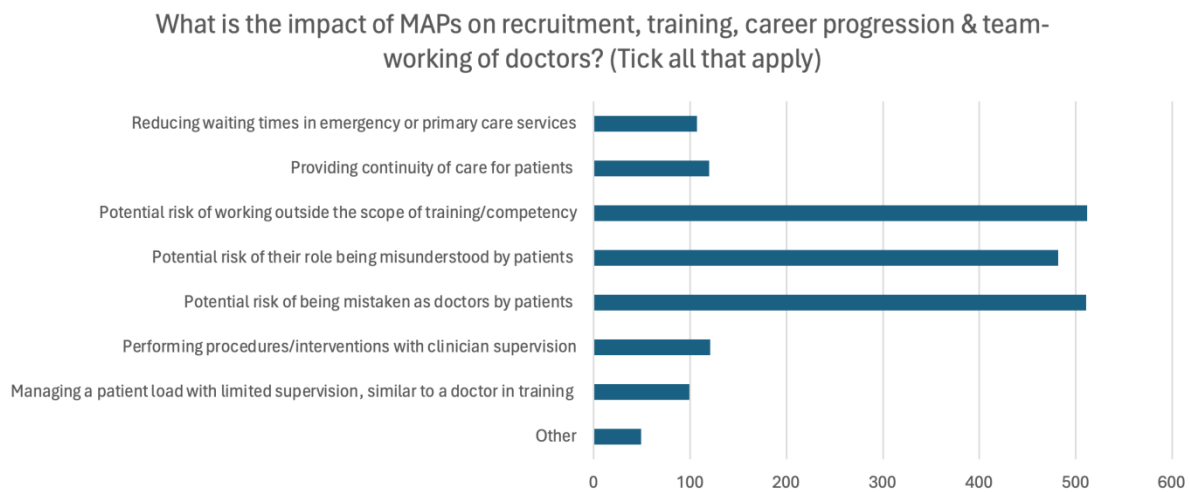


Figure 4: A bar chart describing the results of the recruitment and training question.

*Potential solutions*

The survey results shed light on the perspectives of respondents regarding the necessary steps to enhance the profession of MAPs, with various suggestions gaining notable levels of support. Firstly, 87% (n = 505) of respondents emphasised the importance of establishing a clear distinction between the roles and responsibilities of doctors and MAPs. Similarly, 84% (n = 489) of respondents advocated for clear definitions outlining the scope of practice for MAPs. Furthermore, 74% (n = 432) of respondents expressed the need for regulation by an independent professional body to ensure standards and accountability within the MAPs' profession. Additionally, 69% (n = 401) of respondents endorsed the establishment of a competency framework for MAPs, aiming to delineate the requisite skills and qualifications.

40% (235), supported establishing a career progression pathway for MAPs. Finally, 28% (n = 165) of respondents suggested the regulation of MAPs by a professional body alongside doctors.



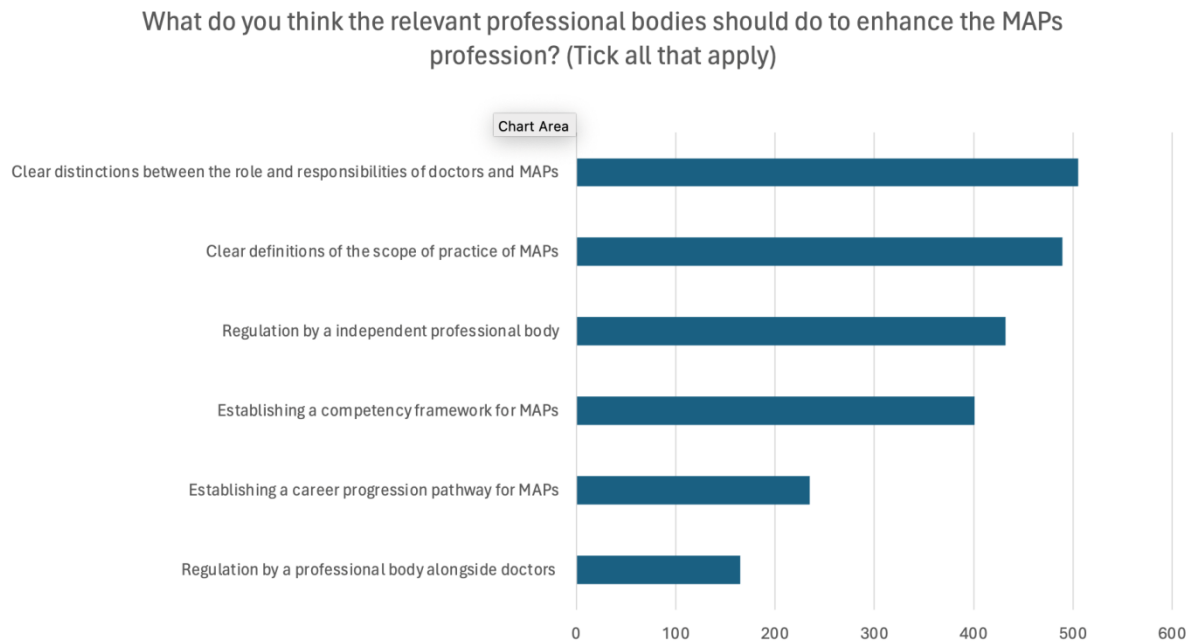


Figure 5: A bar chart describing the results of the professional bodies question.

**Thematic Analysis of Free Text Comments**

The sentiment analysis revealed a predominant negative sentiment regarding the role of MAPs. Concerns primarily revolved around patient safety, lack of proper training, additional workload implications for doctors, the potential for misrepresentation, and the erosion of training opportunities for junior doctors. Some expressed scepticism about MAPs' clinical abilities, emphasising the risks of scope creep and the confusion this may cause among patients.

**Patient Safety Concerns:** There was a pervasive concern regarding patient safety, with many respondents expressing worry about the risks posed by MAPs, particularly in acute settings and primary care. Issues highlighted include inadequate training, limited medical knowledge, and the potential for missed diagnoses or inappropriate management. Many respondents expressed concerns regarding MAPs taking on responsibilities beyond their training and competence. They feared that MAPs may increase the workload of supervising doctors, which could ultimately harm patients.

**Role Clarity and Regulatory Oversight:** There is a consensus among respondents that MAPs should not be considered equivalent to

doctors and should work under direct supervision to avoid risks to patients. Respondents emphasised the importance of clearly defining the roles and responsibilities of MAPs, as well as establishing robust regulatory oversight, and limitations on MAPs' roles to prevent them from acting beyond their capabilities. Concerns were raised about the lack of clarity in training, and competency frameworks, and the same regulatory bodies governing MAPs and doctors may contribute to confusion among patients and other healthcare professionals. Some respondents criticised the lack of clarity leading to the phenomenon of potential scope or mission creep.

**Impact on Doctor Workforce and Training:** Many respondents expressed concerns about the impact of MAPs on the medical workforce, including the potential loss of training opportunities for doctors, reduced innovation, and dissatisfaction among junior doctors. There are also concerns about MAPs being used as substitutes for doctors rather than supporting them, leading to workload issues, and undermining the career prospects of trained doctors. They fear that MAPs may undermine the training and retention of doctors, compete with junior doctors for training, potentially lead to the displacement of doctors by MAPs, create a two-tier

healthcare system increase workload for consultants and reduce the quality of patient care.

**Government Policies and Cost-Cutting:**

There is criticism of government policies perceived as neglecting patient safety, and prioritising cost-cutting measures over patient safety as well as quality of care. Some respondents view the introduction of MAPs as a strategy to address staffing shortages but express scepticism about the long-term implications and motivations behind such initiatives. There is criticism directed at

government policies, particularly regarding the introduction and expansion of MAP roles without adequate consideration of the associated risks.

**Need for Clear Communication and Education:**

Respondents stress the importance of transparent communication with the public regarding the role and limitations of MAPs to avoid confusion and potential risks to patient safety. There is a call for public awareness campaigns to clarify the distinction between MAPs and qualified doctors.

A summary of key benefits and concerns highlighted in the survey results

Benefits:

1. Potential to reduce doctors' workload and improve patient access to care.
2. Continuity of patient management in healthcare settings.
3. Complementing the work of doctors in specific tasks. Acknowledgement that MAPs can reduce workload if their roles are clearly defined, and they are used to assist doctors in appropriate tasks.
4. Recognition of the potential benefits of MAPs in certain supportive roles, such as assisting with administrative tasks and minor procedures.

Concerns:

1. Patient safety risks due to MAPs' limited clinical knowledge, lack of adequate training, oversight and scope creep
2. Replacement of doctors on rota without adequate supervision and regulatory oversight
3. Erosion of training opportunities for junior doctors and impacting career progression of SAS/LED and IMGs
4. Confusion among patients regarding the qualifications of MAPs.
5. Overburdening of supervisors and potential medicolegal implications due to prescribing by proxy for doctors.
6. Lack of clarity in roles and undefined scope of practice.
7. Dissatisfaction with the recruitment process and lack of clarity regarding the roles and responsibilities of MAPs
8. Unequal pay and workload distribution between MAPs and junior doctors.  
Potential degradation of the quality of medical care in the UK and concerns about the long-term impact on patient care and the healthcare system.

**Discussion**

Health systems worldwide are operating in increasingly resource-pressured environments, trying to balance lean delivery with high standards of care when faced with increasing demand. This calls for innovation in how care is delivered. Alongside the solution of depending on the global migration of doctors versus the economic challenge of increasing local production - one such affordable innovation has been the role of MAPs, starting

in the USA and now being established in other parts of the world such as the UK. In the year that the UK Parliament passed the law for the regulation of MAPs, which is a step towards giving MAPs prescribing privileges, there has been an outcry from the doctors' trade unions, trainee associations, members and fellows of medical royal colleges and members of associations regarding the confusion with roles, blurring of the scope of practice, competency, safety and competition for jobs



and training of doctors. This research considered the perceptions of IMGs, LEDs, and SAS doctors, as well as a Multiprofessional cohort of respondents including consultants, GPs, nurses, and allied health professionals, adding their views to the debate.

Overall, the sentiment expressed in the survey textual analysis leans heavily towards scepticism and concern regarding the use of MAPs in healthcare, with particular emphasis on patient safety, role clarity, regulatory oversight, and the impact on the medical workforce. The results of the survey indicate that there are significant concerns regarding the role of MAPs in the healthcare workforce, their potential to be misrepresented to patients or being mistaken for doctors. The views in general, reflect and echo the sentiments of other doctors as seen in other published surveys on MAPs. In the results of the voting by fellows and members of the Royal College of Physicians in London, the respondents supported an overwhelming majority for motions of defining the roles of MAPs, scope of practice, and protection of training opportunities. They also provided strong support for the evaluation of the impact of MAPs on the health service and recommended a pause or slowdown of the pace of expansion of MAPs in the UK<sup>30</sup>.

In our survey, the respondents agreed that the risk to patients is further enhanced by the current plans for their regulation alongside doctors by the UK GMC and recommended overwhelmingly that they be managed by an independent regulator. The major doctors' union – the British Medical Association (BMA) has consistently spoken out against regulation by the GMC of PAs and AAs, warning that blurring of the lines between doctors and non-medically qualified professionals is confusing and can lead to tragic consequences<sup>31</sup>.

Most of the respondents in our survey recommended that MAPs need a competency framework perhaps akin to those for advanced practitioners. The BMA published guidance on what MAPs should and should not do for patients under the careful supervision of a doctor. Using a simple 'traffic lights' system, the report identified what MAPs might be expected to do on their own (green), what they

might do under supervision (orange) and what they must not do (red)<sup>32</sup>. Although controversial, this guidance from the BMA was followed by clarification from NHS Employers and agreement from some medical royal colleges that MAPs should not replace doctors on medical rotas and their roles must not be considered interchangeable<sup>33</sup>.

*PAs are not doctors and cannot and must not replace doctors. PAs are not a substitute for doctors; they are trained to work collaboratively with other health professionals as supplementary members of a multidisciplinary team. PAs must always work within a defined scope of competence; they are not independent medical practitioners and must be supervised appropriately by doctors. Employers must ensure that the supervision of PAs is never to the detriment of doctors, and patients must always receive clear and accurate information about who is treating them and making decisions about their care<sup>34</sup>.*

The survey respondents expressed concerns regarding the increased burden for supervisors and the risk for doctors working alongside MAPs to provide prescribing and ordering of investigations by proxy on patients they may not be fully aware of. There were also concerns regarding the competition for training, especially in procedures and jobs with MAPs.

However, survey respondents mention potential benefits of MAPs such as reducing doctors' workload, improving patient access to care, and providing continuity in patient management, if utilised properly and if their scope of practice is well-defined. They suggest that MAPs could provide support to medical teams and assist with administrative tasks. Some respondents note that MAPs have been effective in specific roles, such as in theatres or during ward rounds, and could be valuable additions to the healthcare workforce if properly regulated.

**Limitations:** This survey was distributed via email membership lists of BAPIO and its alliance partners. Not all LEDs, SAS doctors and IMGs are necessarily members of such organisations, hence the survey does not

purport to be a true democratic representation of all their views.

### Conclusion

Overall, the results of the survey of a Multiprofessional cohort predominantly IMGs, consultants, GPs, nurses, and allied health professionals as well as LED and SAS doctors add to the growing body of opinion on the need for clarity of the role and scope of practice of MAPs, drawing a clear distinction between MAPS and doctors, establishing a competency framework, and focussing on patient safety. The results strongly encourage the regulation of MAPs by an independent regulator and call for measures to help patients understand the distinction between MAPs and doctors. There is also a need to ensure that MAPs do not replace doctors in medical rotas and primary care, and paradoxically do not reduce the opportunities for jobs and training of doctors.

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### **Conflict of Interest**

AP is a medical student; TAC is an FY doctor; PD is a MAP; KT is a GP; JS, JSB, and IC are consultants in the NHS; SS is an academic psychologist; RM is a retired consultant and President of BAPIO

### **Author contributions**

TAC designed the survey, analysed the results and wrote the paper; AP helped design the survey, research and write the background section; JSB, JS, RM, VZ, KT, PD, SS and IC helped in the design, reviewed the results, analysis and contributed to the discussion and conclusions sections of the paper.

### **Project Contributors**

N Shrotri helped design the survey questions; S Sikri helped to organise and run the survey planning meetings and distribute the questionnaires

### **Appendix**

The questionnaire and full data set are available to review in the link below

<https://forms.gle/xSNBwdSVxb2ErWFi9>